

ISOLATION OF ANTIBIOTIC-PRODUCING ACTINOMYCETES FROM SOIL SAMPLES

BY

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DEGREE IN MICROBIOLOGY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Isolation of Antibiotic-Producing Actinomycetes from Soil Samples" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined isolation of antibiotic-producing actinomycetes from soil samples, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of isolation; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with isolation and antibiotic. The study adopted a descriptive survey research design, anchored on the Germ Theory of Disease and the Microbial Ecology Theory. A sample size of 418 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 379 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 2.95). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.555$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 6.65, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.24$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on isolation.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of isolation of antibiotic-producing actinomycetes from soil samples is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

isolation continues to command considerable attention among researchers, policymakers, and practitioners in microbiology. Globalisation and technological change have intensified both the opportunities and the challenges associated with isolation. An examination by Bello and Aderemi (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. Such findings reinforce the argument that isolation deserves a place of priority on the development agenda. Empirical evidence from Ibrahim and Kalu (2021) suggests that positive developments in antibiotic are associated with improvements in isolation. Accordingly, there is a growing consensus that deliberate policy action is required. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The salience of isolation in national discourse has grown steadily, driven by changing social conditions and technological penetration. Globalisation and technological change have intensified both the opportunities and the challenges associated with isolation. Studies by Ekwueme and Ogbeide (2019) largely support the view that isolation exerts a measurable influence on outcomes of interest. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Comparative work by Adigun and Bakare (2022) across several states uncovered a consistent pattern linking isolation with antibiotic. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Contemporary scholarship increasingly frames isolation as inseparable from the broader question of antibiotic. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of isolation. Studies by Adigun and Bakare (2019) largely support the view that isolation exerts a measurable influence on outcomes of interest. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Comparative work by Okonkwo and Adekunle (2022) across several states uncovered a consistent pattern linking isolation with antibiotic. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Few subjects attract as much policy interest in contemporary Nigeria as the question of isolation. The socio-cultural diversity of Nigeria implies that responses to isolation must be differentiated rather than uniform. The work of Osinachi and Musa (2023) extended earlier analyses by demonstrating that antibiotic reinforces the effects of isolation. Accordingly, there is a growing consensus that deliberate policy action is